

Date: Tuesday, 12/5/2006 8:20:03 AM
 User: Kim Johnston

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services		Drawing Name	: BRACKET ASSEMBLY		
Job Number	: 29818					
Estimate Number	: 10290					
P.O. Number	: N/A			Part Number	: D3121144	
This Issue	: 12/5/2006 S.O. No. : N/A			Drawing Number	: D3121 REV D	
Prsht Rev.	: NC			Project Number	: N/A	
First Issue	: N/A			Drawing Revision	: D	
Previous Run	: 28826			Material	: N/A	
Written By	: <i>[Signature]</i>			Due Date	: 1/5/2007	
Checked & Approved By	: <i>[Signature]</i> 06/12/05			Qty:	8 Um: Each	
Comment	: Est Rev: Pick A 04.02.18 New issue KJ/DS					

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :	
1.0	M174B1000X02000	17-4 SS Bar	
		Comment: Qty.: 0.3864 f(s)/Unit Total : 3.0912 f(s) Material: 17-4 SS Bar per AMS 5604/5643 (M17-4-B1.000x02.000) Identify for D3121-114 Batch: <i>1102432</i>	<i>12/06/12/20</i>
2.0	BAND SAW	BAND SAW	
		Comment: BAND SAW Cut blanks: (1.000" x 2.000") 4.425" long	<i>12/06/12/20</i>
3.0	HAAS1	HAAS CNC VERTICAL MACHINING #1	
		Comment: HAAS CNC VERTICAL MACHINING #1 1-Machine D3121-114 as per Folio FA330 and Dwg D3121 Identify as D3121-114 2-Deburr	<i>12/07/01/03</i>
		3-Scribe batch number	<i>12/07/01/03</i>
4.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE	
		Comment: INSPECT PARTS AS THEY COME OFF MACHINE	<i>12/07/01/03</i>

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: Date: 07/01/00
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 12/5/2006 8:20:03 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BRACKET ASSEMBLY

Job Number: 29818

Part Number: D3121144

Job Number:



Seq. #: Machine Or Operation:

Description :

5.0 QC8 SECOND CHECK



Comment: SECOND CHECK

SD 07/01/04

6.0 D312121 Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total : 16.0000 Each(s)

Pick:

Qty Part Number Description Batch
2 D3121-21 Bolt B325828

20

7.0 D3121241 Bearing Assembly



Comment: Qty.: 2.0000 Each(s)/Unit Total : 16.0000 Each(s)

Pick:

Qty Part Number Description Batch
2 D3121-241 Bearing Ass B325828

20

8.0 SMALL FAB 1 SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

Assemble D3121-143 as per Dwg D3121.

SD 07.01.04

9.0 QC5 INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

SD 07.01.04

10.0 PACKAGING 1 PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: ST408

EP 07/01/04 (2) 07/01/04

11.0 QC21 FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

10 07.01.05

Job Completion



10 07.01.05

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	29818
Description: Bracket	Part Number:	D3121-114
Inspection Dwg: D3121	Rev: D	Page 1 of 2

FIRST ARTICLE INSPECTION CHECKLIST

First Article Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.080	+/-0.010	0.074	/			
0.300	+/-0.010	0.297	/			
R0.375	+/-0.010	R0.375	/			
1.54	+/-0.030	1.542	/			
0.350	+/-0.010	0.352	/			
R0.250	+/-0.010	R0.250	/			
1.800	+/-0.030	1.803	/			
Ø0.392	+0.002/-0.000	Ø0.3935	/			
Ø0.201	+0.005/-0.000	Ø0.201	/			
0.100	+/-0.010	0.095	/			
2.540	+/-0.010	2.535	/			
1.590	+/-0.010	1.585	/			
0.160	+/-0.010	0.155	/			
0.400	+/-0.010	0.400	/			
1.220	+/-0.010	1.220	/			
1.600	+/-0.010	1.603	/			
3.80	+/-0.030	3.800	/			
1.800	+/-0.010	1.803	/			
R0.500	+/-0.010	R0.500	/			
0.130	+/-0.010	0.129	/			
3.41	+/-0.030	3.410	/			
3.65	+/-0.030	3.636	/			
2.24	+/-0.030	2.210	/			
45°	+/-0.1°	45°	/			
R0.250	+/-0.010	R0.250	/			
3.97	+/-0.030	3.972	/			
R0.38	+/-0.030	R0.375	/			
Ø0.392	+0.002/-0.000	Ø0.3934	/			
Ø0.201	+0.005/-0.000	Ø0.201	/			
0.100	+/-0.010	0.098	/			
0.268	+/-0.010	0.260	/			
R0.260	+/-0.010	R0.250	/			
0.080	+/-0.010	0.075	/			
0.300	+/-0.010	0.297	/			

DART AEROSPACE LTD	Work Order:	29818
Description: Bracket	Part Number:	D3121-114
Inspection Dwg: D3121	Rev: D	Page 2 of 2

FIRST ARTICLE INSPECTION CHECKLIST

X First Article Prototype

Measured by:	<u>me</u>	Audited by:	<u>SL</u>	Prototype Approval:	N/A
Date:	06/12/29	Date:	06/12/29	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	03.12.08	New Issue P/O D3121-144	KJ/RF	
B	04.05.05	Dimensions changed/re-arranged per Dwg revision	KJ/JLM	
C	06.06.14	Dwg Rev. updated	KJ/JLM	

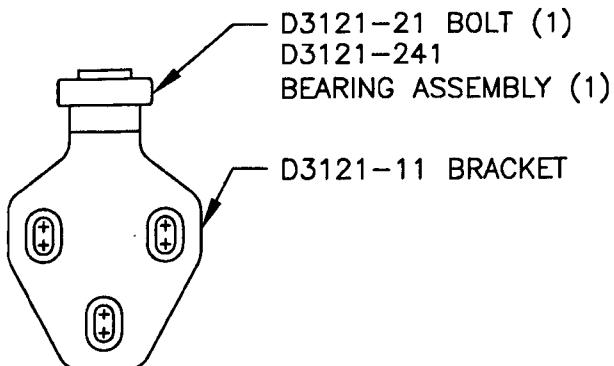
DART

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO.	REV. D SHEET 1 OF 10
		D3121	
DATE		TITLE	SCALE
06.05.17		BRACKET ASSEMBLY	1:2

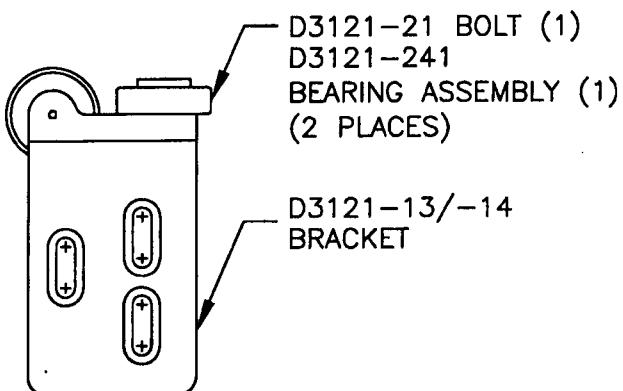
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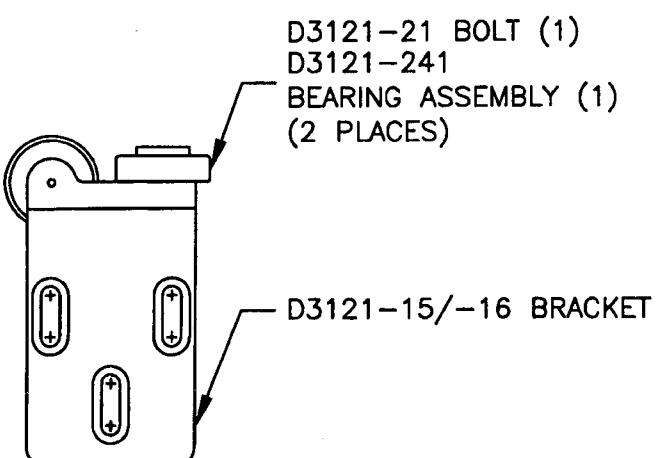
A	02.04.15	NEW ISSUE
B	03.01.16	ADD RIDGES; ADD MAT'L PROP; FIX P/N ADD -141/-143/-144/-145/-146
C	04.02.17	ADD CLEARANCE; USE -241 BEARING
D	06.05.17	D3121-25 CAP WAS 1.024, NOW 1.000



D3121-041 BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23000-33)



D3121-043 (SHOWN) / D3121-044 (OPPOSITE)
BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23000-37/-38)



D3121-045 (SHOWN) / D3121-046 (OPPOSITE)
BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23000^{WY}35/-36)

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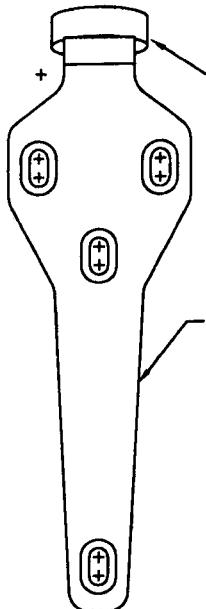
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REV. D

SHEET 2 OF 10

SCALE

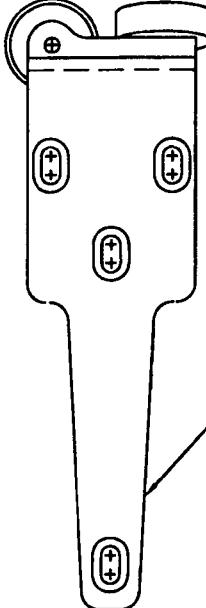
1:2



D3121-21 BOLT (1)
D3121-241
BEARING ASSEMBLY (1)

D3121-141 BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23001-01)

D3121-111 BRACKET



D3121-21 BOLT (1)
D3121-241 BEARING ASSEMBLY (1)
(2 PLACES)

D3121-143 (SHOWN) / D3121-144 (OPPOSITE)
BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23000-03/-04)

D3121-115/-116
BRACKET

D3121-145 (SHOWN) / D3121-146 (OPPOSITE)
BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23000-05/-06)

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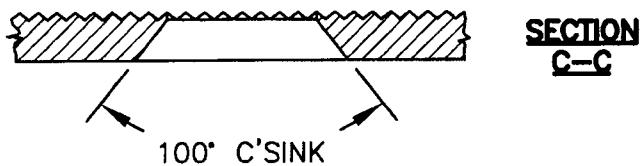
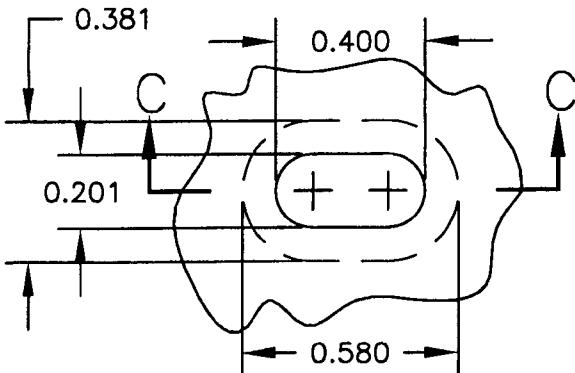
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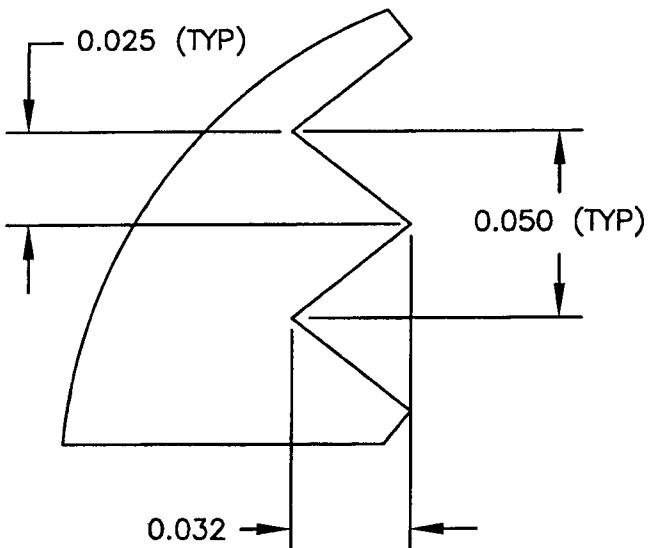
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DATE	06.05.17	TITLE BRACKET ASSEMBLY

REV. D
SHEET 3 OF 10
1:1

DETAIL A:
SLOT DETAIL
SCALE 2:1
VIEW ROTATED



DETAIL B:
RIDGE DETAIL
PARTIAL SECTION
SCALE 1:20



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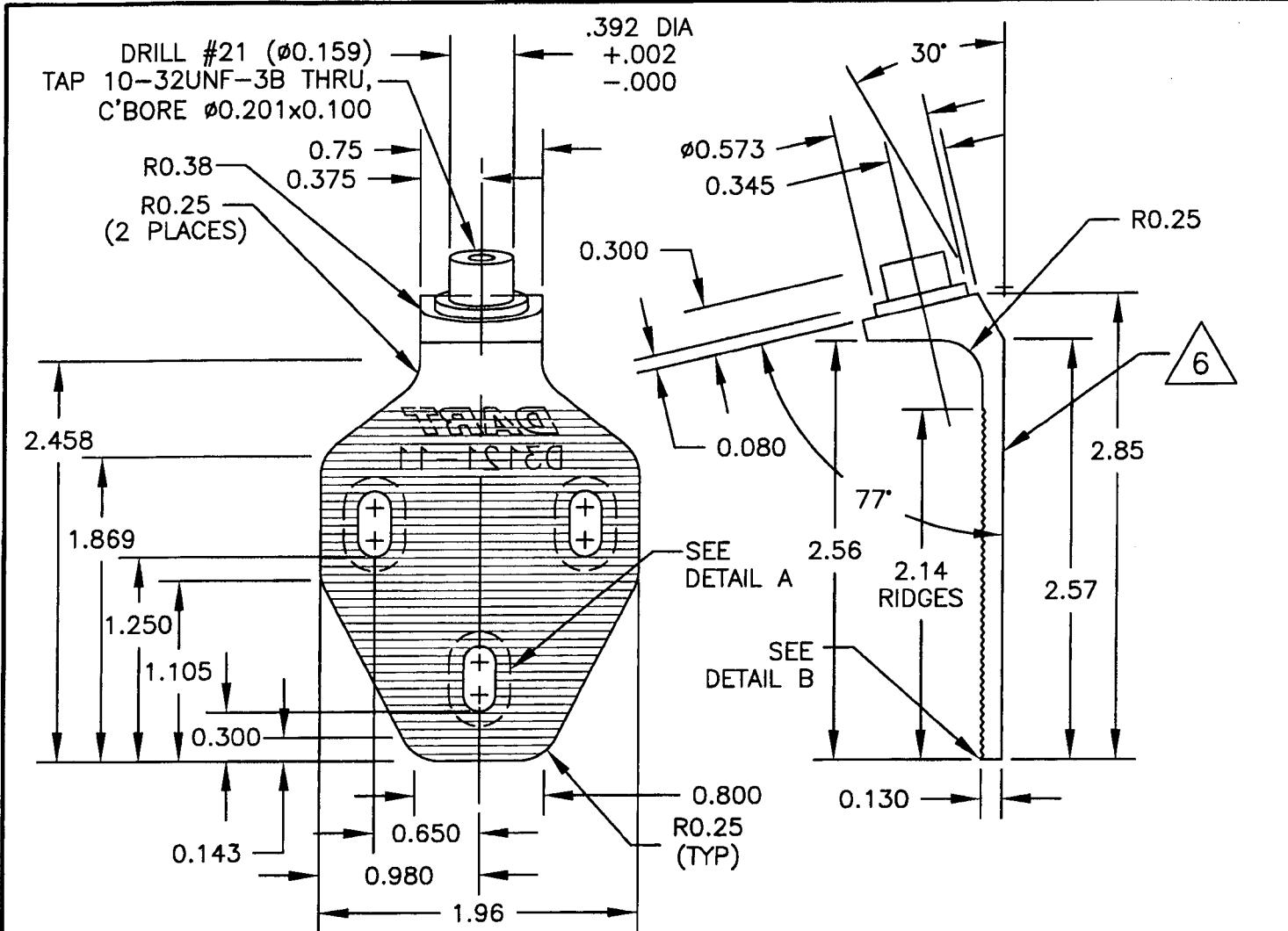
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DATE		REV. D SHEET 4 OF 10 TITLE SCALE 06.05.17 BRACKET ASSEMBLY 1:1

**D3121-11 BRACKET**

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)

MIN ULTIMATE TENSILE = 150 ksi

MIN YIELD TENSILE = 100 ksi

2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

3) ALL DIMENSIONS ARE IN INCHES

4) BREAK ALL SHARP EDGES 0.005 TO 0.015

5) ENGRAVE DART P/N & LOGO AS SHOWN

6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

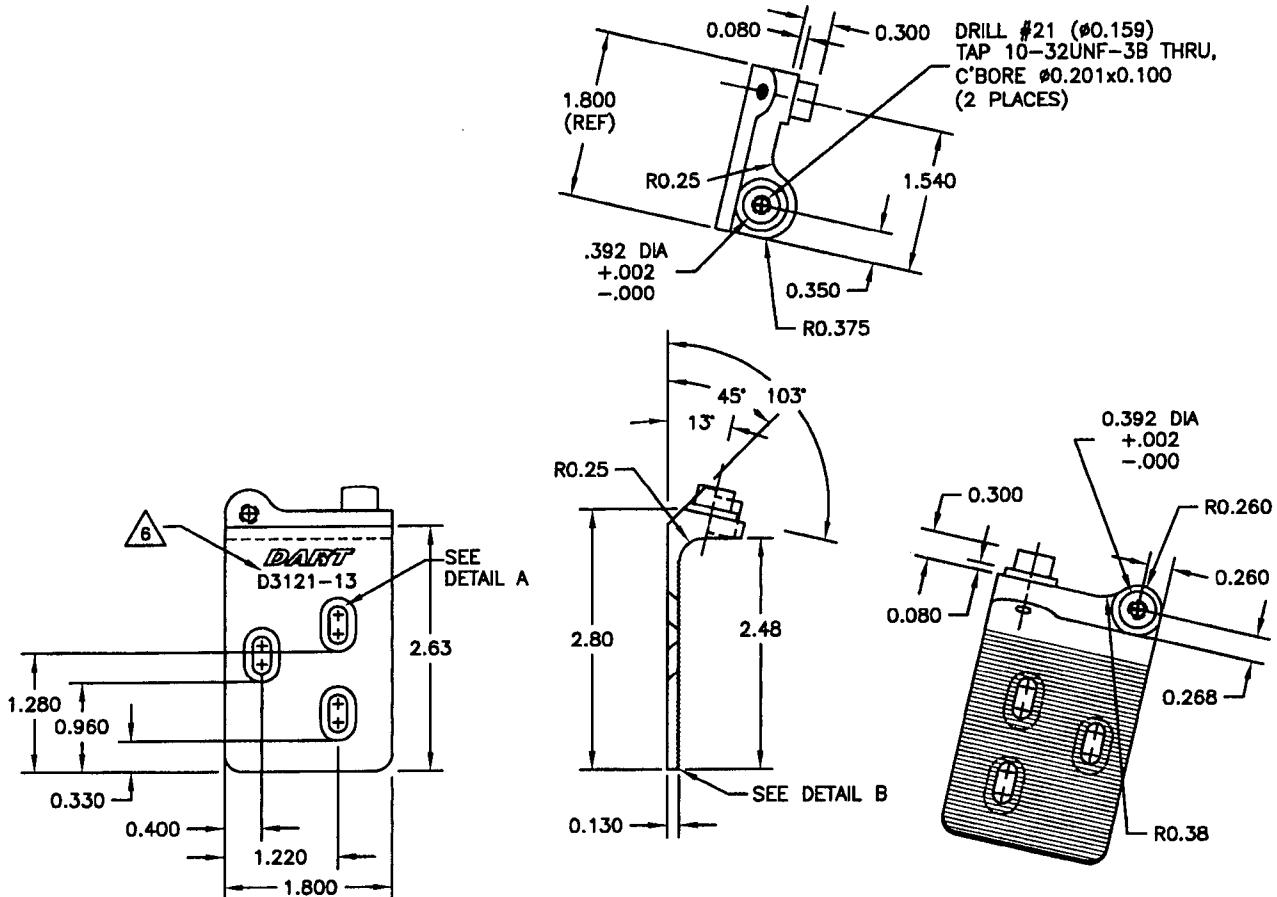
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DATE	06.05.17	REV. D SHEET 5 OF 10 TITLE SCALE 1:2 BRACKET ASSEMBLY

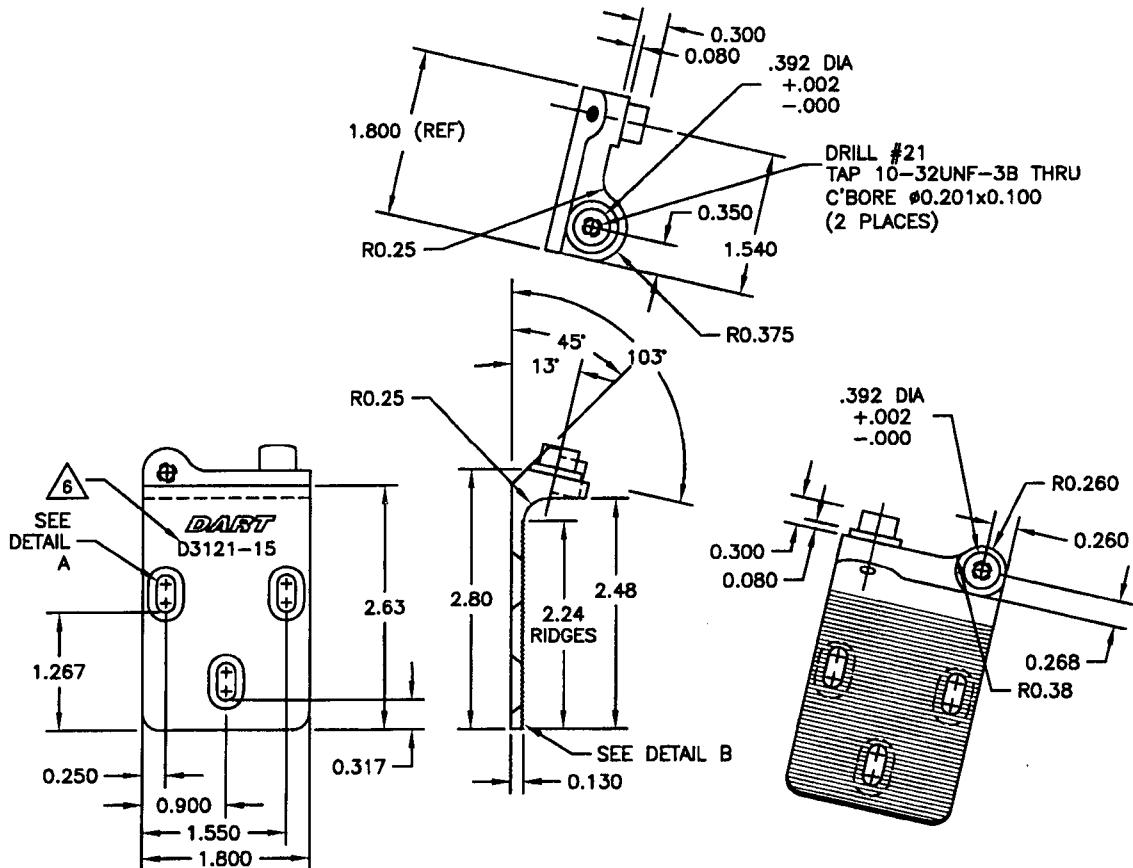
**D3121-13 BRACKET (SHOWN)****D3121-14 BRACKET (OPPOSITE)**

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE STRENGTH = 150 ksi
MIN YIELD TENSILE STRENGTH = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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		D3121	SHEET 6 OF 10

DATE
06.05.17TITLE
BRACKET ASSEMBLYSCALE
1:2**D3121-15 BRACKET (SHOWN)****D3121-16 BRACKET (OPPOSITE)**

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE = 150 ksi
MIN YIELD TENSILE = 100 ksi

2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

3) ALL DIMENSIONS ARE IN INCHES

4) BREAK ALL SHARP EDGES 0.005 TO 0.015

5) ENGRAVE DART P/N AND LOGO AS SHOWN

6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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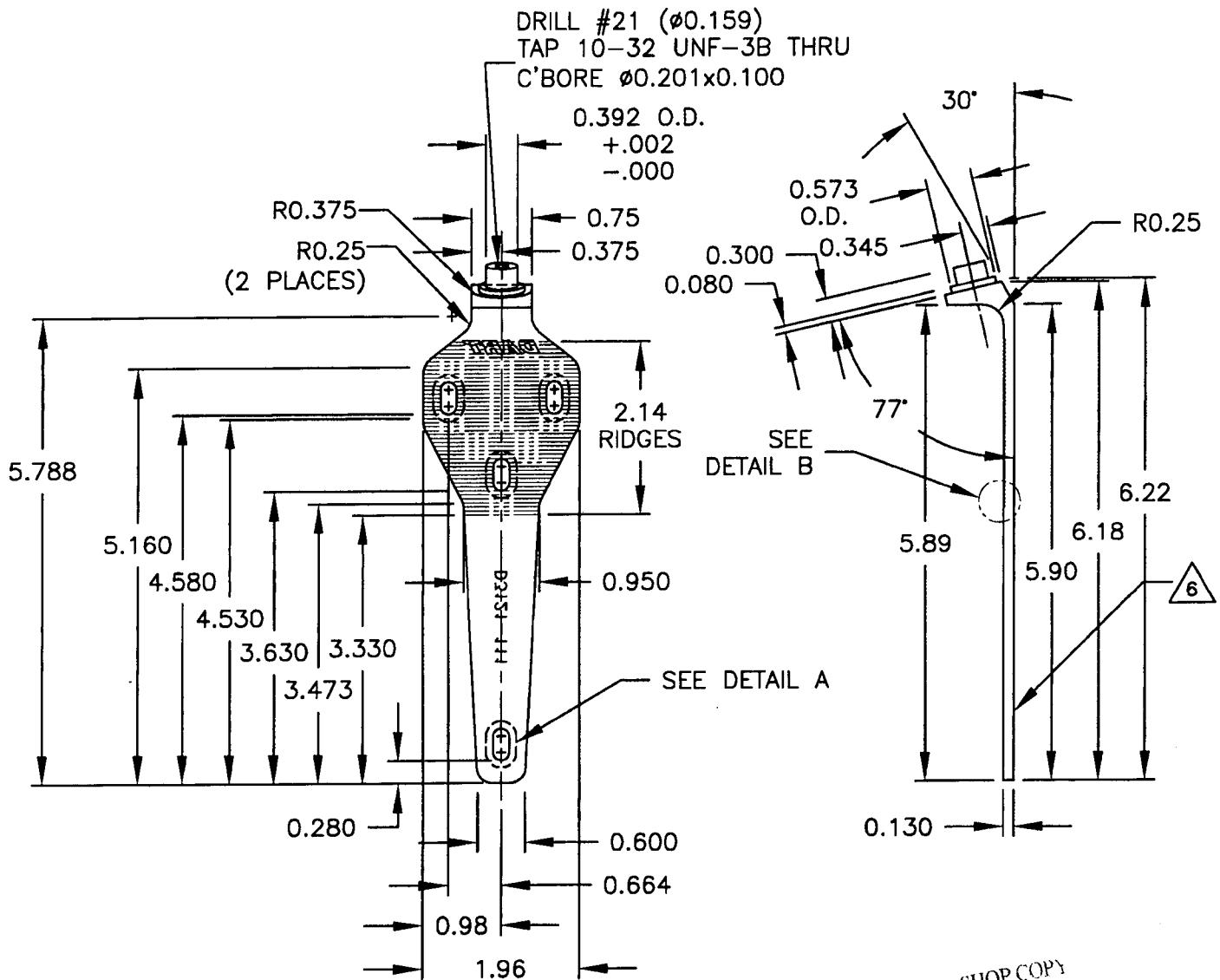
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DATE		TITLE BRACKET ASSEMBLY

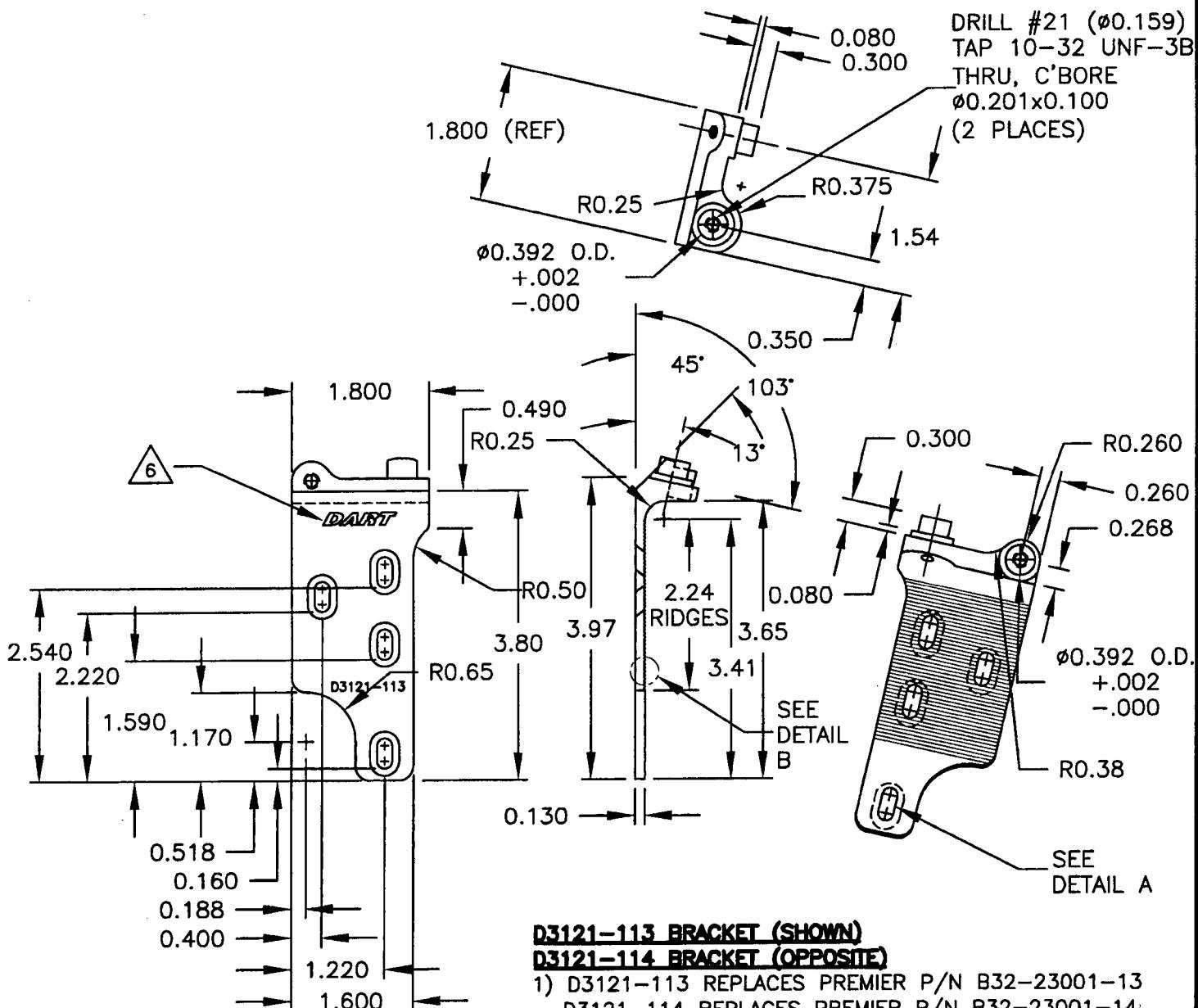
REV. D
SHEET 7 OF 10
1:2**D3121-111 BRACKET**

- 1) REPLACES PREMIER P/N B32-23001-11
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE = 150 ksi
MIN YIELD TENSILE = 100 ksi
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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WITHOUT NOTICE
WORK ORDER
NO. 29818
RELEASED
06.06.02

DART

DESIGN <i>CH</i>	DRAWN BY <i>CB</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		
CHECKED <i>✓</i>	APPROVED <i>✓</i>	DRAWING NO. D3121	REV. D SHEET 8 OF 10	
DATE 06.05.17	TITLE BRACKET ASSEMBLY		SCALE 1:2	



D3121-113 BRACKET (SHOWN)
D3121-114 BRACKET (OPPOSITE)

1) D3121-113 REPLACES PREMIER P/N B32-23001-13
D3121-114 REPLACES PREMIER P/N B32-23001-14

2) MATERIAL: 17-4 SS PER AMS 5604/5643 SHOP COPY

(REF DART SPEC. M17-4-B) RETURN TO

MIN ULTIMATE TENSILE STRENGTH = ^{EN 150} 150 ENGINEERING ksi

MIN YIELD TENSILE STRENGTH = 100 INCHES KILLED COPY

3) TOLERANCES ARE PER DART, QSI 018 UNLESS SUBJECT TO AMENDMENT

OTHERWISE NOTED WITHOUT NOTICE

4) ALL DIMENSIONS ARE IN INCHES WORK ORDERED

5) BREAK ALL SHARP EDGES 0.005 TO 0.015 29818

6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN

7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

RELEASED

06.06.02 ~~th~~

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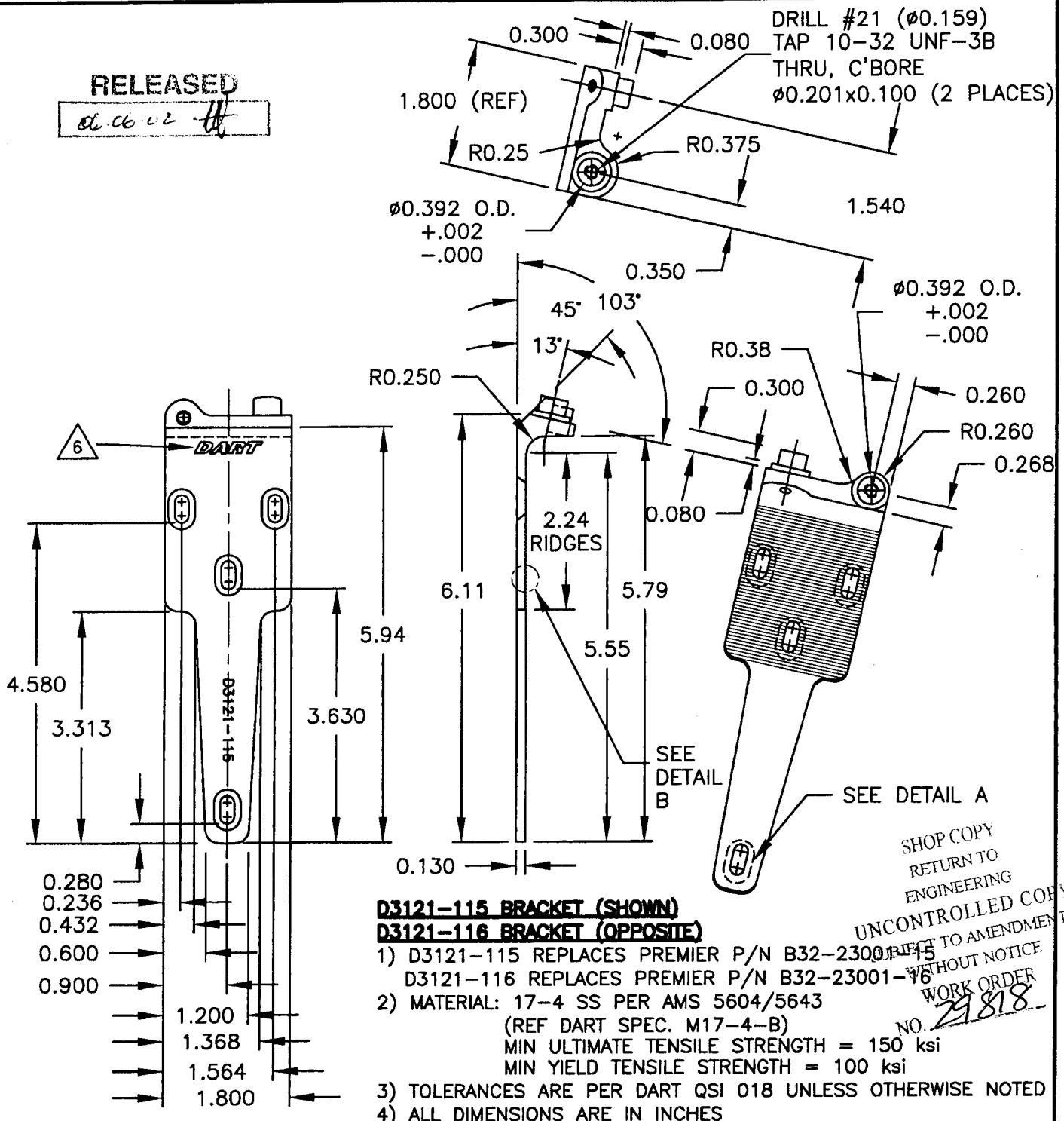
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DATE	04.02.18	REV. C SHEET 9 OF 10 SCALE 1:2 TITLE BRACKET ASSEMBLY

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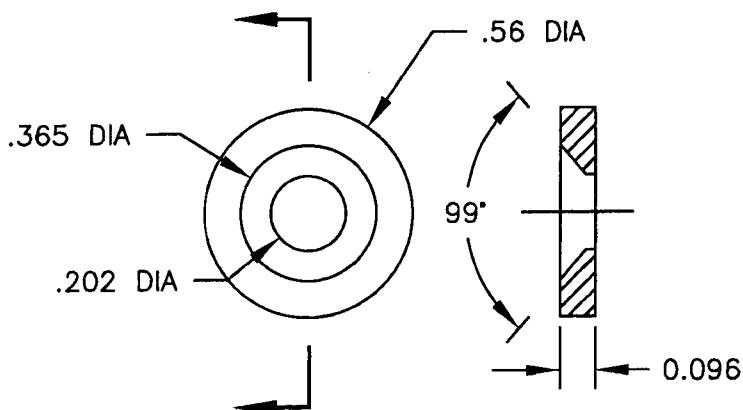
**D3121-115 BRACKET (SHOWN)
D3121-116 BRACKET (OPPOSITE)**

- 1) D3121-115 REPLACES PREMIER P/N B32-23001-B15
D3121-116 REPLACES PREMIER P/N B32-23001-B16
2) MATERIAL: 17-4 SS PER AMS 5604/5643
(REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE STRENGTH = 150 ksi
MIN YIELD TENSILE STRENGTH = 100 ksi
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
4) ALL DIMENSIONS ARE IN INCHES
5) BREAK ALL SHARP EDGES 0.005 TO 0.015
6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

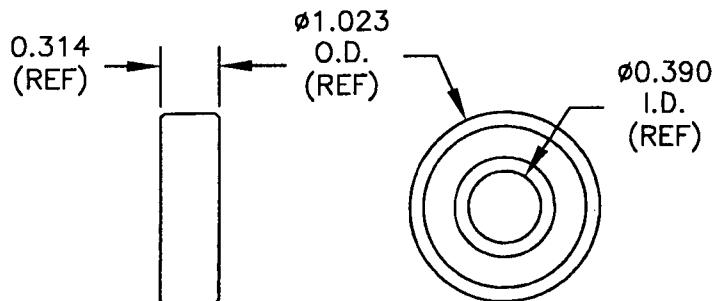
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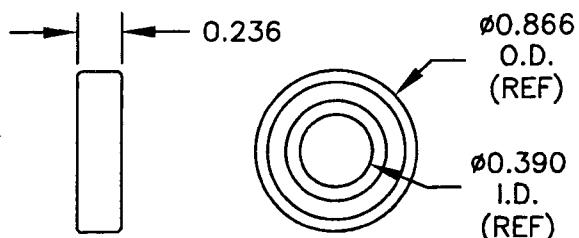
DESIGN	DRAWN BY	DART AEROSPACE LTD	
CHECKED	APPROVED	DRAWING NO.	REV. D
		D3121	SHEET 10 OF 10
DATE		TITLE	SCALE
06.05.17		BRACKET ASSEMBLY	1:1

**D3121-17 WASHER (SCALE 2:1)**

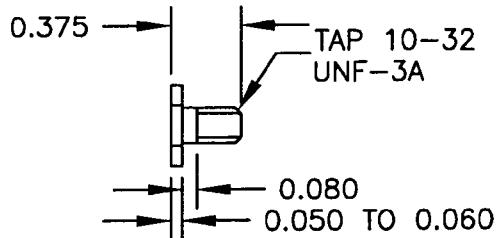
- 1) REPLACES PREMIER P/N B32-23001-17
- 2) MATERIAL: AISI 303 SS ROUND BAR, ANNEALED (REF DART SPEC. M303R)
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015

**D3121-19 BEARING (SCALE 1:1)**

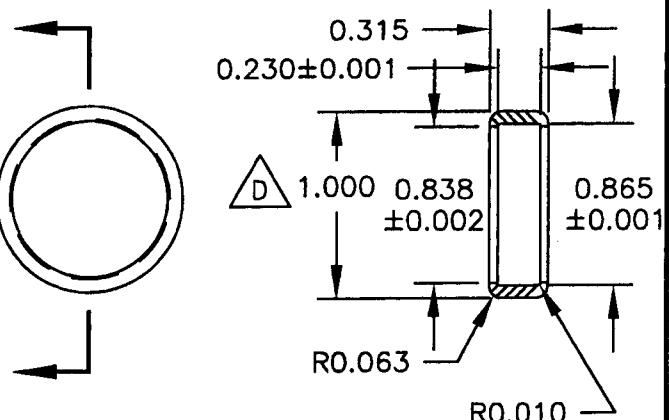
- 1) POSSIBLE SUPPLIER: KING BEARING P/N 6000-2ZJ/EM
FAFNIR P/N 9100KDD
- 2) ALL DIMENSIONS ARE IN INCHES

**D3121-23 BEARING (SCALE 1:1)**

- 1) POSSIBLE SUPPLIER: SKF P/N 61900-2Z
OR KML P/N 6900-ZZ
- 2) ALL DIMENSIONS ARE IN INCHES

**D3121-21 BOLT (SCALE 1:1)**

- 1) MATERIAL: AISI 303 SS HEX, ANNEALED (REF DART SPEC. M303H0.500)
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015

**D3121-25 CAP (SCALE 1:1)**

- 1) MATERIAL: DELRIN ROD, Ø1.25 (REF DART SPEC. M-DELRIN-R1.250)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES

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06.06.02

**D3121-241 BEARING ASSEMBLY (SCALE 1:1)**